

WHAT IS CLAIMED IS:

1 1. A stereo camera system comprising:
2 a stereo imaging means for outputting at
3 least one stereo image;
4 recognition means for locating an object of
5 interest in the field of view of the stereo imaging means
6 and at least one of a distance of the object of interest
7 from the stereo imaging means and the size of the object
8 of interest; and
9 adjusting means for automatically changing
10 at least one system parameter which affects the spatial
11 resolution of the object of interest based on at least
12 one of the located distance of the object of interest
13 from the stereo imaging means and the size of the object
14 of interest.

1 2. The stereo camera system of claim 1,
2 wherein the stereo imaging means comprises:
3 a camera; and
4 a set of mirrors angled with respect to each
5 other at a predetermined angle and disposed a
6 predetermined distance from the camera for producing a
7 stereo effect in the output of the camera.

1 3. The stereo camera system of claim 2,
2 wherein the camera is a still camera and the at least one
3 stereo image is a still image.

1 4. The stereo camera system of claim 2,
2 wherein the camera is a video camera and the at least one
3 stereo image is a sequence of video images.

1 5. The stereo camera system of claim 2,
2 wherein the adjusting means comprises at least one of:
3 angle adjustment means for adjusting the
4 predetermined angle between the set of mirrors;
5 distance adjustment means for adjusting the
6 predetermined distance between the camera and the set of
7 mirrors; and
8 focal length adjustment means for changing a
9 focal length of the camera.

1 6. The stereo camera of claim 5, further
2 comprising a controller for controlling at least one of
3 the angle, distance, and focal length adjustment means
4 based on an input signal from the recognition means.

1 7. The stereo camera system of claim 1,
2 wherein the stereo imaging means comprises two or more
3 cameras, each camera being angled a predetermined angle
4 and distanced a predetermined distance with respect to
5 each other and the object of interest.

1 8. The stereo camera system of claim 7,
2 wherein the two or more cameras are still cameras and the
3 at least one stereo image is a still image.

1 9. The stereo camera system of claim 7,
2 wherein the two or more cameras are video cameras and the
3 at least one stereo image is a sequence of video images.

1 10. The stereo camera system of claim 7,
2 wherein the adjusting means comprises at least one of:
3 angle adjustment means for adjusting the
4 predetermined angle of at least one of the two or more
5 cameras;
6 baseline adjustment means for adjusting the
7 predetermined distance between the two or more cameras;
8 distance adjusting means for adjusting a
9 distance between at least one of the two or more cameras
10 and the object of interest; and
11 focal length adjustment means for changing a
12 focal length of at least one of the two or more cameras.

1 11. The stereo camera of claim 10, further
2 comprising a controller for controlling at least one of
3 the angle, baseline, distance, and focal length
4 adjustment means based on an input signal from the
5 recognition means.

1 12. The stereo camera system of claim 1,
2 wherein the recognition means is a stereo vision system.

1 13. A stereo camera system for use with a
2 stereo imaging means, the stereo imaging means outputting

3 at least one stereo image, the stereo camera system
4 comprising:
5 recognition means for locating an object of
6 interest in the field of view of the stereo imaging means
7 and at least one of a distance of the object of interest
8 from the stereo imaging means and the size of the object
9 of interest; and
10 adjusting means for automatically changing
11 at least one system parameter which affects the spatial
12 resolution of the object of interest based on at least
13 one of the located distance of the object of interest
14 from the stereo imaging means and the size of the object
15 of interest.

1 14. The stereo camera system of claim 13,
2 wherein the stereo imaging means comprises:
3 a camera; and
4 a set of mirrors angled with respect to each
5 other at a predetermined angle and disposed a
6 predetermined distance from the camera for producing a
7 stereo effect in the output of the camera.

1 15. The stereo camera system of claim 14,
2 wherein the adjusting means comprises at least one of:
3 angle adjustment means for adjusting the
4 predetermined angle between the set of mirrors;
5 distance adjustment means for adjusting the
6 predetermined distance between the camera and the set of
7 mirrors; and

8 focal length adjustment means for changing a
9 focal length of the camera.

1 16. The stereo camera of claim 15, further
2 comprising a controller for controlling at least one of
3 the angle, distance, and focal length adjustment means
4 based on an input signal from the recognition means.

1 17. The stereo camera system of claim 13,
2 wherein the stereo imaging means comprises two or more
3 cameras, each camera being angled a predetermined angle
4 and distanced a predetermined distance with respect to
5 each other.

1 18. The stereo camera system of claim 17,
2 wherein the adjusting means comprises at least one of:
3 angle adjustment means for adjusting the
4 predetermined angle of at least one of the two or more
5 cameras;
6 distance adjustment means for adjusting the
7 predetermined distance between the two or more cameras;
8 and
9 focal length adjustment means for changing a
10 focal length of at least one of the two or more cameras.

1 19. The stereo camera of claim 18, further
2 comprising a controller for controlling at least one of
3 the angle, distance, and focal length adjustment means
4 based on an input signal from the recognition means.

1 20. The stereo camera system of claim 1,
2 wherein the recognition means is a stereo vision system.

1 21. A method for adjusting a stereo camera
2 system to control spatial resolution of an object of
3 interest in the field of view of a stereo imaging means,
4 the method comprising the steps of:
5 outputting at least one image from the
6 stereo imaging means;
7 locating an object of interest in the field
8 of view of the stereo imaging means and at least one of
9 the distance of the object of interest from the stereo
10 imaging means and the size of the object of interest; and
11 automatically changing at least one system
12 parameter which affects the spatial resolution of the
13 object of interest based on at least one of the located
14 distance of the object of interest from the stereo
15 imaging means and the size of the object of interest.